

# Dementia, Dysphagia & Nutrition



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The overlap between dysphagia and malnutrition in patients with dementia is well established. Numerous factors – across a range of physical, clinical and psychological – play a role in this link. Understanding the link and its relationship to nutritional management is key to supporting patients with dementia. Evidence based approaches to optimise health and quality of life with regards to nutrition and swallowing will be explored in this article.

## What is dementia?

Dementia is a term used to describe a range of cognitive and behavioural symptoms that can include memory loss, problems with reasoning and communication, a change in personality, and a reduction in a person's ability to carry out daily activities, such as shopping, washing, dressing and cooking.

The most common types of dementia are:

- Alzheimer's disease,
- vascular dementia,
- mixed dementia,
- dementia with Lewy bodies
- frontotemporal dementia.

Dementia is a progressive condition, which means that the symptoms will gradually get worse. This progression will vary from person-to-person, and each will experience dementia in a different way. People may often have some

of the same general symptoms, but the degree to which these affect each person will vary.<sup>1</sup>

Symptoms of dementia include:

- loss of memory,
- mood changes,
- communication problems,
- loss of manual dexterity.

Currently, around 900,000 people have dementia in the UK.<sup>2</sup> While many of these are older people, more than 40,000 people in the UK with dementia are under the age of 65.<sup>3</sup>

## What is dysphagia?

Dysphagia is the medical term used to describe swallowing difficulties and it is estimated that approximately 8% of the world's population are affected by dysphagia.<sup>4</sup> Dysphagia describes eating and drinking disorders which may occur in the oral, pharyngeal and oesophageal stages of swallowing.<sup>5</sup>

Dysphagia identification and the subsequent appropriate management are key for those with this complex condition. The intake of food and drink is essential for life and if swallowing difficulties are not managed correctly it can lead to consequences such as dehydration, weight loss and malnutrition, and aspiration pneumonia.<sup>5</sup> Aspiration pneumonia is the result of inhaling bacterially contaminated saliva or a foreign substance and occurs in 50% of individuals with dysphagia.<sup>6,7</sup>

## The prevalence of dysphagia in dementia

Prevalence of dysphagia in patients with dementia ranges from 13-57%. Studies have shown that dysphagia developed during the late stages of frontotemporal dementia (FTD), but it was seen during the early stage of Alzheimer's dementia (AD).<sup>8</sup> The high prevalence of dysphagia in individuals with dementia is likely the result of age-related changes in sensory and motor function, in addition to those produced by neuropathology.<sup>9</sup>

Patients with dementia and dysphagia are more likely to aspirate than patients without dementia. Patients with dementia and dysphagia have twice the chance of dying with aspiration pneumonia than those without aspiration.<sup>10</sup>

As dementia progresses, cognitive challenges mean that many direct interventions and compensatory strategies are considered inappropriate or limited in scope. Therefore, the goals of management in dementia are typically maintenance of function and prevention of adverse outcomes.<sup>11</sup>

## Challenges of dysphagia and nutrition in dementia

As patients with dementia experience decline in their cognitive and functional abilities, behavioural eating deficits become more common and impair their feeding and swallowing abilities. Changes in eating in dementia include a decrease, or increase, in amount eaten (with or without weight changes), a change in eating habits (for instance, a change in the frequency of eating, playing with food, and improper or no use of utensils), a change in food choice (most commonly a preference toward sweet foods), and pica (persistent ingestion of non-nutritive substances).<sup>12</sup> In persons with end stage dementia only 24% feed themselves and 18% are fed and the rest either refuse feeding (26%) or choke on their food (32%).<sup>13</sup>

In dementia, cognitive changes can impact on people's ability to anticipate, prepare for and engage at mealtimes including difficulties initiating eating, maintaining attention, or recognising food or cutlery.<sup>11</sup>

Eating and swallowing requires cognitive awareness, visual recognition of food, physiologic response, motor planning and execution and patterned sensorimotor responses. Thus, as patients experience deficits in attention, initiation, orientation, recognition, executive function, decision-making and apraxia, the process of eating and swallowing is affected. Among the eating and drinking problems seen in dementia are:<sup>12</sup>

- food refusal,
- distractibility,
- visual agnosia i.e., loss of ability to recognise familiar foods,
- swallowing and eating apraxia i.e., dysfunction in the motor skills for swallowing and eating,
- pocketing food,
- spitting food,
- excessive swallows,
- rapid eating,
- absent chewing,
- delayed or impaired pharyngeal swallow.

### Taste and smell changes

Taste changes occur during the ageing process and taste perception is affected by taste bud receptors' density and functionality.<sup>14</sup> People with dementia may begin to want more sugar and salt in their food, and it's common for them to begin eating more sweet foods.

People with dementia may also enjoy unusual flavour combinations or ways of eating. Often people mix sweet and savoury food and flavours. They may start to have a less varied diet, only eating certain types of food.<sup>15</sup>

### Poor appetite

Upon the decline of physiological systems, changes in appetite and eating impairment are common. In dementia, it is thought that a combination of impairment in ageing and neurodegeneration may be linked to changes in molecular, hormonal, or anatomical defects that arise in appetite impairment.<sup>14</sup> Changes in appetite are a risk factor for weight loss and malnutrition.

## Nutrition interventions for managing dysphagia in dementia

The consequence of dysphagia may be dehydration, malnutrition, weight loss, and aspiration pneumonia. Ensuring the

nutritional needs of people with dysphagia are met can be challenging and many factors need to be considered. In patients with dysphagia, there are additional considerations that need to be taken in account to ensure a person's nutrition and hydration needs are met.

### Consideration 1:

#### Texture modification

Diet modifications to food textures, and liquid viscosity, are commonly used in the management of individuals with dysphagia. Using the IDDSI framework,<sup>4</sup> speech and language therapists (SLT) may recommend texture modification of diet and fluids as a compensatory measure for dysphagia management. As part of a nutritional assessment and development of an appropriate nutritional care plan, there are several factors that a dietitian needs to consider.

Studies of texture modified diet mealtime observations and meal/menu audits found that only half of residents ate full meals, and many protein and carbohydrate servings did not comply with national nutritional standards.<sup>16</sup>

Compliance and satisfaction with texture modified diets has also been shown to improve energy and protein intake by optimising the texture modification. The quality of texture modified diets is highly related to mealtime acceptance and compliance. Therefore, to guarantee adequate intake, studying mealtime satisfaction is crucial.<sup>17</sup>

There have been multiple attempts to optimise nutrition intake in aged care, primarily by providing nutritionally dense food to people on texture modified diets in the form of supplementation or fortification. Other oral nutrition interventions include shaping and moulding the food closer to regular food by adding thickening agent or enrichment powder (such as fortification); adjusting the texture and consistency complied to an individual's diagnosed level of texture modified diets; and offering nutritious in-between-meals.<sup>18</sup>

### Consideration 2:

#### Nutrition support

Weight loss is a prominent clinical feature of dementia because of numerous nutritional problems that can occur in the course of the disease. Co-morbidities such as dysphagia can perpetuate the reduced dietary intake and malnutrition further. ESPEN guidelines on the nutritional management of patients with dementia include the following recommendations:<sup>19</sup>

- Every person with dementia is screened for malnutrition.
- Regular monitoring of weight.
- Provision of meals in a pleasant, homelike atmosphere.
- Provision of adequate food according to individual needs with respect to personal preferences.
- Encourage adequate food intake and to provide adequate support.
- The use of oral nutritional supplements (ONS) to improve nutritional status.

Recommendations 3-6 are focused on strategies to support oral nutrition. However, any recommendations regarding texture modified diet and fluids will also need to be considered. In the instance of reduced food intake and weight loss, meals should be enriched with energy and protein, and high-energy snacks offered in-between meals. Finger food, if appropriate, may help to maintain independence in eating and may also allow for eating while walking for persons with dementia who are constantly on the move.

Trials studying the effects of ONS compared to standard care report significant improvement in body weight and/or BMI.<sup>19</sup>

With regards to enteral nutrition a Cochrane systematic review found that there is 'insufficient evidence to suggest that enteral tube feeding is beneficial in persons with advanced dementia' though there may be limited adverse effects of the intervention.<sup>20, 21</sup> ESPEN guidelines on nutrition in dementia recommendation 5 states 'that each decision – for or against artificial nutrition and hydration for patients with dementia – is made on an individual basis with respect to general prognosis and patients' preferences'.<sup>19</sup> Ethical considerations need to be considered as to whether there is indication for therapeutic intervention that can realistically meet therapeutic goals.

### Consideration 3: Mealtime environment

Environmental factors play an important role for the atmosphere during mealtimes. Factors such as making the eating area attractive, ensuring the room is well lit and include considerations such as contrasting colours to provide definition between table, plate and food.

Interventions to modify the environments such as reducing distractions, limiting background noise, and creating mealtime routines are also commonly used to promote successful eating.<sup>22</sup>

Many people with dysphagia and dementia may require assistance at mealtimes. It is important to follow SLT recommendations on how to support the patient. Dependency for feeding elevates the risk of aspiration, and aspiration pneumonia, in patients with dysphagia. In addition, assistance at mealtimes can be labour intensive and consequently insufficient time may be spent supporting the patient than is needed. This can result in increased risk of aspiration and/or inadequate nutritional intake.<sup>11</sup> It is important that staff caring for patients with dementia are trained in the appropriate level of nutritional support and assistance with mealtime eating and drinking to help maintain nutritional status.

### Summary

Minimising feeding difficulties and increasing nutritional intake is an important goal when caring for this vulnerable group of people, and there is a need to provide better training and support for care staff to ensure they feel confident and empowered to provide high quality nutritional care. Swallowing disorders in patients with dementia may lead to the risk of malnutrition and death, because of low caloric intake and aspiration of food. Dysphagia has also been correlated with the development of pneumonia, which is a common cause of morbidity and mortality, especially in elderly people with dementia.<sup>23</sup>

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